Claims

1-5. (Cancelled)

6. (Currently Amended) The method of ~~claim 5~~ claim 29, wherein the optical retarder is a ¼-wave retarder.

7-14. (Cancelled)

15. (Currently Amended) The optical sampling system of ~~claim 14~~ claim 16, further comprising an optical modulator configured to establish at least one of the first phase difference and the second phase difference.

16. (Currently Amended) An optical sampling system, comprising:

a data input configured to receive a test signal;

a sampling pulse input configured to receive a sampling pulse;

an optical system configured to produce a first combination of the data input and the sampling pulse and a second combination of the data input and the sampling pulse, wherein the first combination is associated with a first phase difference and the second combination is associated with a second phase difference;

a first balanced detector and a second balanced detector configured to receive the first combination and the second combination, respectively, and produce a first balanced signal and a second balanced signal, respectively;

a signal processing system configured to combine the first balanced signal and the second balanced signal; and ~~The optical sampling system of claim 14, further comprising~~

a retardation plate configured to establish at least one of the first phase difference and the second phase difference.

17. (Currently Amended) The optical sampling system of ~~claim 13~~ claim 16, wherein a difference between the first phase difference and the second phase difference is such that the balanced signal associated with the first phase difference is an in-phase signal and the balanced signal associated with the second phase difference is a quadrature signal ~~about 90 degrees~~.

18-28. (Cancelled)

29. (New) An optical sampling method, comprising:

receiving an optical data pulse and an optical sampling pulse;

directing first portions of the optical data pulse and the optical sampling pulse to a first balanced detector with a first phase difference to obtain an in-phase balanced electrical signal;

directing second portions of the optical data pulse and the optical sampling pulse to an optical retarder having an axis that is substantially parallel to a polarization direction of one of the second portion of the optical data pulse or the second portion of the optical data pulse and then directing the second portions to a second balanced detector with a second phase difference to obtain a quadrature balanced electrical signal; and

combining the in-phase balanced electrical signal and the quadrature balanced electrical signal to obtain a sample signal associated with data pulse intensity.